Nominal Species of Living Oysters Proposed During the Last Fifty Years

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STUDYING BIOLOGICAL CLASSIFICATION and nomenclature is much like playing a game without beginning or end, in which the rules frequently change, and players of varying ability enter and leave as they please. Whether their actions are from the best or worst of motives, and whether they are ignorant of or choose to disregard the current rules, all players potentially influence subsequent events. Every player must be given the benefit of the doubt, for the most immutable and endurable rule of the game is, that it is not competitive but cooperative, in attempting to achieve an orderly arrangement of knowledge with unambiguous, if not stabilized, nomenclature. For some, this goal should also reflect as precisely as possible the phylogenetic history of organisms. Nowhere is the analogy of such a game more thoroughly exemplified than in the nomenclature of oysters.

Half a century ago LAMY (1929-1930) surveyed the living oysters and attempted to determine the biological species (which exist in nature as distinct entities) on the basis of the collection of the Natural History Museum of Paris. Numerous nominal species (named species, not necessarily valid as distinct biological ones) were also cited by him, which were not represented in the Paris museum. Of those he made no guess about their biological validity.

About 400 trivial names are included in the index of Lamy's paper. Some of the numerous homonyms he listed may be distinct biological species. But he even accepted as valid some pre-Linnaean names, specifically of Adanson, and post-Linnaean names of non-binomial authors such as Chemnitz, and names which had only been written on museum labels, such as those of Valenciennes and Jousseaume, but never published by them.

As might be expected, an impressive list of nominal genera in the Ostreidae had also accumulated by 1929. Lamy noted most of them in his introductory remarks, but he put all species of oysters in the genus *Ostrea* Linnaeus, 1758, a custom of many authors before and since, particularly when writing faunal catalogues. Since 1930 some

authors, chiefly those interested in the commercial production of oysters (e.g. Thompson, 1954), have put all living oysters in one of three genera: Pycnodonte Fischer de Waldheim, 1835 (often misspelled Pycnodonta: see STENZEL, 1971: N1105), Ostrea Linnaeus, 1758 and Crassostrea Sacco, 1897. RANSON (1960, 1967) advocated this system, and applied it most extensively. Pycnodonte was separated from the others because it has vesicular shell structure. The last two were separated from each other on the basis of the promyal passage on the right side of the excurrent mantle chamber being closed (Ostrea) or open (Crassostrea) (see STENZEL, 1971: N969); unfortunately, the condition of the promyal passage must be inferred for many species, since the anatomies of only a few have been studied. An additional basis for the three-genera system was used by Ranson. He made studies of the protoconchs (prodissoconchs), claiming he was able to recognize fundamental differences in the very ephemeral hinge dentition of the late larval and early post-larval shells, by which it is possible to separate not only genera, but all species of oysters from each other also. He did not describe any of these differences in words, and neither the photographs of the minute shells (RAN-SON, 1967) nor the line drawings (RANSON, 1960) allow other students to be certain which points he considered important in differentiating species. Whether these features have any validity I can not say, but they are certainly of little use in identifying post-larval oysters, many of which have lost their protoconchs through shell erosion. Even when the larval shell is present, it is usually impossible to determine its dentition, which is obliterated by later shell growth.

Using several additional shell characters, STENZEL (1971) proposed a more satisfactory classification of oysters. He divided the superfamily Ostreacea into four families (of which two fossil ones were dubiously included), five subfamilies (of which only three have living representatives), several tribes and 65 genera and subgenera.

His exhaustive study thoroughly reviewed the generic nomenclature. Of species, he dealt extensively only with those which are type-species. However, many other living species were dealt with incidentally, as examples of particular characteristics which he wished to discuss. He restricted Pycnodonte to species of fossil oysters, and introduced two new genera for the living species with vesicular shell structure: Hyotissa and Neopycnodonte. Because it is necessary to refer to Stenzel's classification in making generic allocations in the latter part of this paper, his classification of living oysters, with minor rearrangement and extension, is presented here. I have moved the Lophinae to a position between the Pycnodonteinae and Ostreinae, and recognized as distinct the genera Ostreola and Dendostrea (which he synonymized with Ostrea and Lopha, respectively). My unpublished observations on the anatomy of those groups warrant these modifications.

Stenzel's Classification of Living Oysters.

OSTREACEA

GRYPHAEIDAE

Pycnodonteinae

Hyotissa Stenzel, 1971
Type: Mytilus hyotis Linnaeus, 1758 (OD)
Neopycnodonte Stenzel, 1971
Type: Ostrea cochlear Poli, 1795 (OD)

OSTREIDAE

Lophinae

Lopha Röding, 1798

Type: Mytilus cristagalli Linnaeus, 1758 (SD, Dall, 1898)

Dendostrea Swainson, 1853

Type: Ostrea folium Linnaeus, 1758 (SD, Herrmannsen, 1847)

Alectryonella Sacco, 1897

Type: Ostrea plicatula Gmelin, 1791 (OD)

Ostreinae

Ostreola Monterosato, 1884

Type: Ostrea stentina Payraudeau, 1826 (OD)

Ostrea Linnaeus, 1758

Type: Ostrea edulis Linnaeus, 1758 (SD, ICZN, Opin. 94)

Saccostrea Dollfus & Dautzenberg, 1920

Type: Ostrea saccellus Dujardin, 1835 (M) (= Ostrea cucullata Born, 1778).

Striostrea Vyalov, 1936

Type: Ostrea procellosa "Valenciennes" Lamy, 1929 (OD) (= Ostrea margaritacea Lamarck, 1819)

Crassostrea Sacco, 1897

Type: Ostrea virginica Gmelin, 1791 (OD)

Subfamily dubious

Anomiostrea Habe and Kosuge, 1966

Type: Ostrea pyxidata Adams and Reeve, 1842 (OD)

(not O. pyxidata Born, 1778 (Pectinidae) renamed
Anomiostrea coralliophila Habe, 1975)

During the fifty years since Lamy's paper was published, about one new trivial name per year has been proposed for living oysters. A few names appeared slightly before or at the time Lamy's paper went to press, which he could not include. These are listed below.

ORTON (1928) proposed 2 new genera (but did not adopt them himself) and 6 new trivial names for well known species, ostensibly to improve the nomenclature of oysters on the basis of making the literal meaning of the names more appropriate. His nominal taxa are not included in the list below because Lamy added a final paragraph to his paper, summarizing them, and IREDALE (1939) and STENZEL (1971) adequately disposed of Orton's names.

IREDALE (1939) named 7 new species of living oysters from Australia, poorly described but figured. Ranson (1967) added 8 nominal species from museum specimens, figuring only the protoconchs, and citing museum lots that represent them. In only one instance did he cite a lot as holotype (see Ostrea rehderi, below); another, O. catalai, is based on only a single museum lot. None of his species is described in words; even if his illustrations of the protoconchs are accepted as a "statement" about these species, they certainly do not differentiate them from other taxa, or sufficiently from each other, for the species to be recognized.

CATALOGUE OF SPECIES

In the following catalogue, the trivial names are alphabetically arranged, with author and year of publication indicated for each. The name as originally introduced is presented, showing the genus in which it was placed, or the kind of subspecific taxon in the case of a few, introduced at that level. The source of publication is given, with notation of illustrations, if any, and the type locality.

Where possible, I have attempted to allocate the trivial taxon to its proper genus, as understood in the outline of genera above. I am very grateful to Thomas R. Calnan for making it possible for me to see several of the papers cited.

1. amasa Iredale, 1939.

Saxostrea amasa Iredale, 1939. Sci. Repts. Brit. Mus. Great Barrier Reef Expedit. 1928-29, Moll., p. 399, Pl. 7, fig. 8. Type Loc., Caloundra (Queensland), Australia. Thompson (1954) accepts this species as valid, noting that it is probably what Lamy (1929) called Ostrea forskali var. mordax Gould. Iredale's species is possibly a Saccostrea.

2. arbicola Dautzenberg, 1929.

Ostrea inaequivalvis Sowerby, 1871 var. arbicola Dautzenberg, 1929. Moll. Test. Mar. de Madagascar, p. 554-555. Not figured. Type Loc., not stated, evidently Madagascar. The generic allocation of this trivial name, proposed as a "variety," depends on what oyster Dautzenberg identified as O. inaequivalvis Sowerby, 1871; this is uncertain, but from the habitat (adhering to mangrove roots) and the geographic source of his material, this is possibly a Saccostrea.

3. ariakensis "Fujita" Wakija, 1930.

Ostrea ariakensis "Fujita" Wakija, 1930. Fourth Pacific Science Congress (Batavia, Java) Proc. 3:345-347. Not figured. Listed as a reference, thus: "O. ariakensis (Wakija M.S.) Fujita, Nihon Suisan Dobutsugaku, 1913, p. 519." This may mean that Fujita proposed the name in 1913, based on a manuscript of Wakija, but I have been unable to locate any such reference. An extensive description in the 1930 reference notes it is very similar to O. gigas (which is a Crassostrea). Type Loc., "Along the western coast of Korea, probably extending to the coasts of China, and in Japan it is only found in the Bay of Ariake and the Bay of Shiranuhi on the northeastern coast of Kyushu". Kuroda & Habe (1952) do not cite the species, but the name is accepted as a valid species by Ranson (1967) and by Kira (1962).

4. awajiensis "Hirase" Hatai, 1930.

Ostrea edulis awajiensis n. subsp. "Hirase" Hatai, 1930. Fourth Pacific Science Congr. (Batavia, Java) Proc. 3:223. No description or illustration. For the species, the parenthetical synonym is given: "O. denselamellosa Lischke." The subspecific trivial name is essentially nude (see also O. japonica "Hirase" HATAI, 1930).

5. bartschi Ranson, 1967.

Ostrea bartschi Ranson, 1967. Revue des Travaux de l'Inst. Pêches Maritimes 31(3):243-244, fig. 40, p. 243 (two very poor photographs of exterior of left and right valves of protoconch, and drawing of interior of left valve protoconch). No description. Fifteen lots are cited from four museums, but none are designated type. Localities are the Philippines, Siam, and various islands of the East Indies. The species is unrecognizable from the original publication.

6. benefica Bartsch, 1945.

Ostrea benefica Bartsch, 1945. Smithsonian Misc. Colls. 104(16):1-2, pls. 1, 2. Type Loc., Sandakan, British North Borneo. This is a large *Crassostrea*, probably only an environmental variant of *C. gigas* (Thunberg, 1793).

7. bresia Iredale, 1939.

Ostrea bresia Iredale, 1939. Sci. Repts. Brit. Mus. Great Barrier Reef Expedit., 1928-29, Moll., p. 396-397, pl. 7, fig. 4. Type Loc., Seaforth, north of Mackay, Queensland, Australia. Although Stenzel (1971) accepts Thompson's (1954) view that this is only an ecomorph of Lopha cristagalli Linnaeus, 1758, I think it is more likely to belong to the genus Alectryonella as defined by Stenzel.

8. caparti Ranson, 1967.

Crassostrea caparti Ranson, 1967. Revue des Travaux de l'Inst. des Pêches Maritimes 31(2):199, fig. 25, p. 199 (three poor photographs of the protoconch). No description. No citation of type or type locality. Only two localities are listed, Siam and Timor, each lot in a separate museum. The species is unrecognizable from his account.

9. catalai Ranson, 1967.

Ostrea catalai Ranson, 1967. Revue des Travaux de l'Inst. des Pêches Maritimes 31(3): 246, fig. 43; p. 246 (line drawings of exterior of protoconch of right valve). No description. Only one lot is cited from the Muséum d'Histoire Naturelle of Paris (evidently not numbered); it is from Nouméa, New Caledonia, which is therefore the type locality. The published data are too insufficient for species recognition.

10. charlottae Finlay, 1928.

"Ostrea charlottae n. sp. (sic) for O. hyotis Sutter, 1913, Man. N.Z. Moll., p. 889, pl. 57, fig. 2; not of Linne." Finlay, 1928, New Zealand Institute Trans., 59:265-266, pl. 40, figs. 25-26. Type Loc., Queen Charlotte Sound,

New Zealand. From Finlay's figure, this is close to or identical with Ostrea angasi Sowerby, 1871.

11. commercialis Iredale and Roughley, 1933.

Ostrea commercialis Iredale and Roughley, 1933. Linn. Soc. New So. Wales, Proc., 58:278. Not figured. Proposed as a replacement name for oysters of New South Wales, Australia, previously identified under six trivial names (of species of other regions). A brief description is given, but no precise type locality cited (evidently New South Wales, Australia). This is probably a member of the genus Saccostrea, as Stenzel (1971) noted.

12. complanata Fenaux, 1944.

Ostrea complanata Fenaux, 1944. Inst. Océanographique (Monaco) Bull. No. 861, p. 1, pl. 1, figs. 1-2. Poorly described in Latin and French. No measurements are given, nor type locality cited, which is evidently the Mediterranean Sea. The figure indicates it is in the genus Crassostrea.

13. coralliophila Habe, 1975.

Anomiostrea coralliophila Habe, 1975. Venus (Japanese Jour. Malacol) 33:184. Substitute name for Ostrea pyxidata Adams and Reeve, 1848, not Born, 1778 (Pectinidae).

14. corteziensis Hertlein, 1951.

Ostrea corteziensis Hertlein, 1951. So. Calif. Acad. Sci. Bull., 50:68, pl. 24, figs. 1-2. Type Loc., Kino Bay, Sonora, Mexico, Gulf of California. This is a Crassostrea.

15. dactylena Iredale, 1939.

Ostrea commercialis dactylena "ecomorph nov." Iredale, 1939, Sci. Repts. Brit. Mus. Great Barrier Reef Expedit. 1928-29, Moll., p. 399, pl. 7, fig. 6. Type Loc. Lindeman Island (Queensland?), Australia. Probably a Saccostrea.

16. elongata Grabau and King, 1928.

Ostrea chemnitzi Hanley, var. elongata Grabau and King, 1928. Shells of Peitaiho, p. 58, 164. Not figured. Type Lec., not specified, evidently Peitaiho, China. Not Ostrea elongata Born, 1778 (Pectinidae).

17. futamiensis Seki, 1929.

Ostrea futamiensis Seki, 1929. Imperial Acad. Japan Proc., 5:477, figs. 1-9, p. 479. Type Loc., Futami, Hyogo Prefecture, Japan. This is probably an Ostreola.

18. gradiva Iredale, 1939.

Saxostrea gradiva Iredale, 1939. Sci. Rept. Brit. Mus. Great Barrier Reef Expedit. 1928-29, Moll., p. 400, pl. 7, fig. 10, 10a, 10b. Type Loc., on a mangrove root, Low Isles (Queensland, Australia). This is possibly a Striostrea, but Thompson (1954:152) considered it a synonym of "Crassostrea echinata (Quoy and Gaimard, 1835)" which, if true, would place Iredale's species in Saccostrea.

19. guyanensis Ranson, 1967.

Crassostrea guyanensis Ranson, 1967. Revue des Travaux de l'Inst. des Pêches Maritimes 31(2):169-170, fig. 15, p. 169 (drawing of exterior view of protoconch of left valve). No description. No type or type locality was cited, but 38 lots are listed, from 10 museums. All localities are from French Guiana, Surinam, Trinidad and Brazil. The species is unrecognizable from the original publication.

20. hefferdi Finlay, 1928.

Ostrea hefferdi Finlay, 1928. New Zealand Inst. Trans., 59:265, for the New Zealand form of Ostrea tatei Sutter, 1913. Sutter's species had as type a specimen from Eocene strata of Australia, although he thought it also occurred living in New Zealand. A neotype was selected by Finlay from Dunedin Harbor, which is therefore the type locality.

21. hiranoi Baker and Spicer, 1930

Ostrea hiranoi Baker and Spicer, 1930. San Diego Soc. Nat. Hist., Trans. 6(6):173, pl. 18, figs. 1-3. Type Loc., sixty fathoms depth, about five miles off the Bay of Obama on the northern coast of Hondo, Japan. This is Neopycnodonte cochlear (Poli, 1795).

22. iredalei Faustino, 1932.

Ostrea iredalei Faustino, 1932. Philippine Jour. Sci. 49(4):546-547, pl. 1, figs. 1-4. Type Loc., Navotas, Malabon, Parañaque, and other places in Manila Bay. This is a Crassostrea, possibly C. gigas (Thunberg, 1793).

23. irregularis "Tokunaga" Grabau and King, 1928.

Ostrea irregularis "Tokunaga" Grabau and King, 1928. Shells of Peitaiho, p. 58, 163. Not figured; Type Loc. not specified, evidently Peitaiho, China. The brief description is insufficient to allow generic allocation.

24. japonica "Hirase" Hatai, 1930.

Ostrea edulis japonica "Hirase" Hatai, 1930. Fourth Pacific Science Congress (Batavia, Java, 1969) Proc. 3:223. No description, figure or type locality; a parenthetical synonym is indicated, "O. denselamellosa Lischke)." The name is nude, and seems not to have been used in later literature on the oysters of Japan.

25. kauaia Dall, Bartsch and Rehder, 1938.

Ostrea kauaia Dall, Bartsch and Rehder, 1938. Bernice P. Bishop Mus. Bull., 153:112-113, pl. 30, figs. 8-9. Type Loc., U.S. Bur. Fisheries Steamer Albatross at Station 4132, near Kauai (Hawaiian Ids.) in 257-312 fathoms on fine gray sand and mud bottom.

26. kupua Dall, Bartsch and Rehder, 1938.

Ostrea kupua Dall, Bartsch and Rehder, 1938. Bernice P. Bishop. Mus. Bull., 153:111, pl. 30, figs. 1-4. Type Loc., Pearl Harbor, Oahu, Hawaii. This is probably a Dendostrea.

27. laterostrata Fenaux, 1942.

Ostrea (Ostreola) laterostrata Fenaux, 1942. Inst. Oceanogr. (Monaco) Bull., No. 861, p. 1, text fig. Type Loc., not specified, evidently from the Mediterranean coast of France. The Latin and French descriptions are poor, with no measurements given. I think, from the figure, the specimen is Neopycnodonte cochlear (Poli, 1795), and that the author has misconstrued the concept of Ostreola.

28. laysana Dall, Bartsch and Rehder, 1938.

Ostrea laysana Dall, Bartsch and Rehder, 1938. Bernice P. Bishop Mus. Bull. 153:111, pl. 32, figs. 5-8. Type Loc., U.S. Bur. Fisheries Steamer Albatross at Sta. 3854, off Laysan Island (Hawaiian Ids.) in 30-20 fathoms on white sand, pebbly and rocky bottom. This is Neopycnodonte cochlear (Poli, 1795).

29. malabonensis Faustino, 1932.

Ostrea malabonensis Faustino. 1932. Philippine Jour. Sci. 49(4):547, pl. 2, figs. 3-5. Type Loc., Malabon, Rizal, Philippines. This is possibly an Ostreola.

30. nippona Seki, 1934.

Ostrea nippona Seki, 1934. Venus, Japanese Jour. Malacol. 4(5):276-279. Text figs. 1-4, p. 277 and 6-15, p. 278. Type Loc. Harima (Japan). Possibly an Ostrea s.s.

31. nomades Iredale 1939.

Ostrea nomades Iredale, 1939. Sci. Repts. Brit. Mus. Great Barrier Reef Expedit., 1928-29, Moll., p. 395, pl. 7, figs. 1, 1a, 1b. Type Loc., not specified, although

"typical specimens" are cited from Stradbroke Island, Queensland, Australia, and fig. 1a of pl. 7 is from "North-West Islet, Capricorn Group, Queensland." This is probably an Ostreola.

32. procles Iredale, 1939.

Ostrea procles Iredale, 1939. Sci. Repts. Brit. Mus. Great Barrier Reef Expedit., 1928-29, Moll., p. 396, pl. 7, fig. 2. Type Loc., "under coral blocks at Low Isles, Michaelmas Cay (Queensland, Australia)." This is probably Hyotissa numisma (Lamarck, 1819).

33. quirites Iredale, 1939.

Ostrea quirites Iredale, 1939. Sci. Repts. Brit. Mus. Great Barrier Reef Expedit., 1928-29, Moll., p. 396, pl. 7, fig. 3. Type Loc. "dredged in Port Curtis in about 9 fathoms (Queensland, Australia)."

34. rehderi Ranson, 1967.

Ostrea rehderi Ranson, 1967. Revue des Travaux de l'Inst. Pêches Maritimes 31(3):244, fig. 41; p. 244 (three poor photographs of protoconch). No description. Only three lots are cited, all from the Philippines, all at the U.S. Natl. Mus. Nat. Hist. One lot is designated type of the species, USNM 235745. "Philippines, off Jolo, Jolo Id., USBF Sta. 5145." The species is unrecognizable from the original publication.

35. respondens Dautzenberg, 1932.

Ostrea (Lopha) Förskali Chemnitz, 1785 var. respondens Dautzenberg, 1932. Jour. de Conchyl. 76:87. New name for "cornucopiae auct. (non Chemnitz)." This name resulted from Lamy's (1929) decision that the oysters which would today be called Saccostrea cucullata (Born, 1778) should be given different names when they occur in the eastern Atlantic from those which occur in the Indo-west Pacific.

36. sedea Iredale, 1939.

Ostrea sedea Iredale, 1939. Sci. Repts. Brit. Mus. Great Barrier Reef., Moll., p. 397, pl. 7, fig. 5. Type Loc., not specified. The figured specimen is "from under stones at Lindeman Island, Whitsunday Group," Queensland, Australia, but Michaelmas Cay, Low Isles, is also cited.

37. setoensis Habe, 1957.

Ostrea sedea setoensis subsp. nov. Habe, 1957. Venus, Japanese Jour. Malacol. 19:180-181. Not figured. Type Loc., Seto, Shirahama, Wakayama Prefecture, Honshu, Japan. Probably an Ostreola.

38. sikamea "Amemiya" Hatai, 1930.

Ostrea gigas Thunberg var. sikamea var. nov. "Amemiya" Hatai, 1930. Fourth Pacific Science Congress (Batavia, Java, 1929) Proc. 3:223. No description or illustration. A nude name, apparently never published by Amemiya.

39. syriaca Pallary, 1938.

Ostrea (Ostreola) stentina Payraudeau var. syriaca Pallary, 1938. Jour. de Conchyl. 82:48, pl. 2, figs. 15-16. Type Loc., "De Jounieh à Alexandrette et Payas" (Eastern Mediterranean, north of Beirut).

40. thaanumi Dall, Bartsch and Rehder, 1938.

Ostrea thaanumi Dall, Bartsch and Rehder, 1938. Bernice P. Bishop Mus. Bull. 153:114-115, pl. 32, figs. 1-4. Type Loc., Mokuoloe Island, Kaneohe Bay, Oahu, Hawaii. This is Hyotissa numisma (Lamarck, 1819).

41. thomasi McLean, 1941.

Ostrea (Ostrea) thomasi McLean, 1941. Notulae Naturae (Acad. Nat. Sci. Philadelphia) No. 67, p. 7, pl. 3, figs. 1-2; pl. 4, figs. 1-2. Type Loc., Off Palm Beach, Florida, in 300 feet of water. This is an Hyotissa. Ostrea thomasii "Conrad" Cope, 1867 (Acad. Nat. Sci. Phila., Proc. 1867, p. 139) is a nude name which does not invalidate McLean's species.

42. tridacnaeformis Ranson, 1967.

Crassostrea tridacnaeformis Ranson, 1967. Revue des Travaux de l'Inst. des Pêches Maritimes 31(2):198-199, fig. 24, p. 198 (drawings of interior and exterior views of protoconchs of both valves). No description. No citation of type or type locality, although only six lots are cited, from two museums. The localities listed are Red Sea and New Caledonia. The species is unrecognizable from the original publication.

43. valettei Ranson, 1967.

Ostrea valettei Ranson, 1967. Revue des Travaux de l'Inst. des Pêches Maritimes 31(3):217-218, fig. 29; p. 217 (line drawing of protoconch). No description. No type or type locality cited, although 24 lots, from five museums are listed, all from the coast of Brazil, Uruguay and Argentina. The species is unrecognizable from the original publication.

44. weberi Olsson, 1951.

Ostrea weberi Olsson, 1951. Nautilus 65:6-7, pl. 1, figs.

1-4. Type Loc., Key West, Florida. This is possibly a Striostrea.

45. winckworthi Ranson, 1967.

Ostrea winckworthi Ranson, 1967. Revue des Travaux de l'Inst. des Pêches Maritimes 31(3):245-246, fig. 42; p. 245 (three poor photographs of the protoconch). No description. No designation of type or of type locality. Twelve museum lots are cited, from seven museums. Localities include Japan, China, Northern Australia, Andaman Islands and Ceylon. The species is unrecognizable from the original publication.

POSTSCRIPT

I am indebted to Dr. John W. Tunnell, Jr., for calling my attention to the following new name, which appeared after this paper was in press:

46. paraibanensis Singarajah, 1980.

Crassostrea paraibanensis Singarajah, 1980. Bull. of Marine Science 30(4): 837-846; fig. 2, p. 836; fig. 3, p. 837; fig. 5, p. 843. Type Loc., Salinas and Livramento, Paraiba River estuary . . . northern part of Brazil. This is correctly placed generically.

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(Monaco) Bull. No. 827: 1 p.; text fig. 1944. Nouvelle espèce d'Ostrea de la Méditerrannée. Inst. Océanograph. (Monaco) Bull. No. 861: 1 p.; plt. 1; 2 text figs. FINLAY, HAROLD JOHN

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